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P R E L I M I N A R Y E S T I M A T E

of

AGRICULTURAL CONDITIONS AT THE END OF 1944

NORTH CENTRAL STATES //

This is a tentative statement prepared for review of the Committee. It is subject to further revisions at subsequent meetings of the Committee. It is developed for the purpose of stimulating further thought and discussion of what will be the status of agriculture at the end of the war.



Midwest Regional Committee
on Post-War Programs,

U. S. DEPARTMENT OF AGRICULTURE,
623 North 2nd St., Milwaukee, Wisconsin

Foreword

This statement is prepared by the Midwest* Regional Committee on Post-War Programs of the United States Department of Agriculture, to serve as a current record of things happening to agriculture during the war period and a forecast of things that may need special attention after the war.

Some agricultural problems have been temporarily solved or relieved by the "war boom". The solution to others has been merely delayed. New ones are in the making.

This preliminary report proposes to record as clearly as we can see now the trend of happenings, and what stage they may reach by the end of 1944.

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	Indiana	Missouri
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Agricultural Conditions at the End of 1944

North Central States

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I. CHANGES IN AGRICULTURAL PRODUCTION*

Prior to 1944 our wartime agricultural program has consisted of trying to get farmers to produce more of everything that they have been accustomed to producing. Some changes in emphasis were suggested, but by and large it has been a program of general increases. Unfortunately, such a program has proved inadequate. Only by developing a program of shifting production to crops and livestock that yield maximum quantities of food nutrients, and by securing the necessary agricultural adjustments to bring this about can agriculture be placed on an all-out war footing. By the end of 1944 it may be expected that this change in our agricultural production program will be under way. Several more years will be required, however, to reach maximum food production.

These years will be difficult ones, both from the viewpoint of the farmers and those responsible for planning our production program. For example, even though present meat supplies are inadequate to meet the demand for meat, our livestock population has already exceeded our expected feed supplies. Downward adjustments appear inevitable for types of livestock that produce the least food nutrients per unit of feed consumed, while the production of more efficient producing livestock will be further expanded in spite of dwindling feed supplies. In general, milk production will be increased slightly or maintained, hogs will be decreased, and beef cattle stabilized at near the January 1, 1943 level. Poultry will probably stabilize at near present levels in this region. By the end of 1944, the civilian population will be eating more cereals and vegetables, and less meat.

Crop acreage can be more quickly adjusted than livestock. Adjustments will be in the direction of producing more crops utilized directly for human food. Feed crops will be chosen to provide the largest amount of protein as well as total digestible nutrients. For the remainder of the war, more emphasis will be placed on using available soil fertility. There is no evidence yet that ruinous erosion is being generally promoted by war production efforts in the Midwest.

Among the crops that will be generally stimulated by a food nutrient program of production are potatoes, dry beans, most vegetable crops, soybeans and corn. Additional emphasis will be placed on edible types of soybeans. Wheat will probably be increased only moderately in spite of its sterling food qualities, partly because other more needed things can better be grown in the Corn Belt, and partly because wheat acreage can be expanded in other regions. However, reasonable expansion will, no doubt, take place in wheat areas, such as the Red River Valley of Minnesota and other areas where wheat will yield more food and feed than other crops.

The acreage expansion called for by the end of 1944 for certain crops must be made largely at the expense of other crops. Oats, rye, barley, hay and pasture will undoubtedly feel the pressure for reduction. However, with ample supplies of fertilizer available, it is hoped that reductions in yield will be less than reductions in acreage.

Distinctly war crops, such as hemp, will probably be further expanded by the end of 1944.

The continuation of a food program after the war which maximizes

food nutrients with considerable disregard for peoples' tastes or desires is hardly to be contemplated. When wartime and immediate post-war food pressures diminish, less emphasis will be placed on crops like potatoes, soybeans and dry beans. The extent of demand for most of the other crop and livestock products will depend on how adequately the economic readjustment of the whole nation is handled. Undoubtedly, if high purchasing power remains in the hands of consumers, and if new world markets are developed, we can maintain a high general level of production.

A preliminary picture of the situation at the end of the war is contained in the following tables. These estimates will be changed as our knowledge increases, and as changing conditions require that new estimates be made. Committees in each State, in cooperation with the War Food Production Administration, are now preparing goals on crop and livestock production for 1944.

Land Use, 1942 and 1943, compared with 1944 and
maximum wartime production capacity
Corn Belt and Lake States

Corn Belt States 1/					Lake States 2/			
Class of crops	1942	1943	1944	Maximum capacity pct. of capacity	1942	1943	1944	Maximum capacity pct. of capacity
	1,000 acres	1,000 acres	Pct.	Pct.	1,000 acres	1,000 acres	Pct.	Pct.
Inter- tilled	42,149	45,683	112	115	11,740	12,294	110	117
Small grain	20,735	20,060	101	103	14,893	14,610	102	92
Sod	26,531	24,578	97	99	14,462	14,673	95	105
Total crop land 3/	89,390	90,575	102	102	43,404	43,653	101	102

Source: Based on estimates drawn from 1943 state production capacity reports.

1/ Iowa, Illinois, Indiana, Ohio, and Missouri

2/ Minnesota, Wisconsin, and Michigan

3/ Total cropland includes rotation pasture, idle or fallow land and in some of the States, plowable permanent pasture. Not all of the States adjusted adequately the three categories of crops or total cropland for double-cropping or "duplication" of acreages. Hence, these figures check only roughly for the region.

Acreage of selected crops, livestock numbers and production, 1942 and 1943
compared with 1944 and maximum wartime production capacity
Corn Belt and Lake States

Item	Corn Belt States 1/				Lake States 2/			
	1942		1943		1942		1943	
	acres	Percent	acres	Percent	acres	Percent	acres	Percent
Corn	1,000		1,000		1,000		1,000	
Soybeans for beans	29,463	111	32,453	112	8,900	109	9,438	119
Potatoes	8,432	126	8,795	135	576	72	528	91
Vegetables for processing	270	117	289	136	545	159	679	172
Vegetables, fresh	447	107	465	111	458	99	489	87
Dry edible beans	102	117	102	136	66	116	67	124
	-	-	-	-	641	133	749	133
Oats, for grain	13,607	87	13,107	83	7,919	92	8,145	88
Wheat	4,979	140	5,093	155	1,928	109	1,887	105
Barley	679	92	411	115	2,416	84	1,877	79
Flax	278	145	340	143	1,691	109	1,858	111
Hay, all tame	13,727	102	13,325	104	9,469	101	9,629	110
Rotation pasture	13,536	91	12,577	93	4,879	87	4,665	95
Total used for crops	86,265	102	87,171	102	41,095	102	41,406	104

Number, January 1:

Thousand head

Thousand head

All cattle and calves	15,401	99	15,916	99	9,251	103	9,454	109
Milk cows, 2 yrs. & over	5,571	102	5,658	104	5,178	105	5,305	112
Sows, spring	4,525	104	5,453	98	1,343	99	1,631	115
Sows, fall	3,095	99	3,549	97	660	97	760	113
Sheep and lambs	7,852	92	7,624	94	2,985	97	2,967	92
Hens and pullets	111,143	112	124,456	110	51,086	122	58,908	133

Production:

Milk (million pounds)	24,855	101	25,123	103	28,625	98	28,530	113
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Hogs (million pounds)	11,573	97	11,641	89	2,751	106	3,043	111
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Chickens raised (1000Head)	204,076	105	224,926	102	91,366	102	100,200	115
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Eggs (1,000 dozen)	1063,583	114	1202,369	113	525,500	113	575,000	129
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Source: Based on estimates drawn from 1943 State production capacity reports.
1/ Ia., Ill., Ind., Ohio and Mo.
2/ Minn., Wis. and Mich.

II. Land Use from a Conservation Point of View

Generally speaking, the increased agricultural production up to 1943 has been obtained at no great increase in the rate of soil erosion. The 1943 "plow up", however, is showing a significant tendency to break land on the long, steep slopes, which experience has shown will seriously erode when the protective vegetative cover is destroyed. Fields that have been in permanent pasture or hay for several years are now being plowed. No definite information is yet available as to the extent of this "plow up", but there is visible evidence throughout the region that some farmers are engaging in the same kind of unplanned production effort that resulted in many thousands of acres of ruined land, dust storms, and devastating floods which were the aftermath of agriculture's part in the last World War.

Heavy storms during the spring of 1943 have kept large acreages of land so wet it has been impossible to plant them on time. Rather than delay planting any longer and risk failure to mature crops before frost, farmers are plowing the higher and more sloping lands.

Rehabilitation of existing drainage facilities, and the installation of additional drains on the lowlands of the region would be a major factor in correcting this maluse of the hill land. During the unusually dry years prior to 1942, farm and public drains were not adequately maintained. Since 1942 this operation has been hampered by a lack of adequate drainage machinery, skilled operators, and engineering service.

The removal of limits on the acreage of corn and wheat, combined with a very favorable price, has further encouraged in the spring of 1943 the plowing of land which should remain under protective vegetative cover. With the possibility of still greater demands in 1944 upon the productive

capacity of the farms, and an indicated further price increase, there is a distinct possibility that much progress in soil conservation in recent years may be lost, and serious inroads made in the soil resources of the region.

During 1942 the largest item influencing the rate of erosion was the increase in soybean acreage on sloping land. The following table shows significant comparisons in corn and soybeans. Pressures for food in 1944 will continue these large acreages with cumulative effects on serious erosion on rolling lands.

	<u>Corn*</u>	<u>Soybeans*</u>
Average Acreage Harvested 1930-39 -	41,395,000	1,772,000
1940 -	36,092,000	4,256,000
1942 -	37,917,000	9,132,000
Intentions - March, 1943**	42,024,000	9,791,670

* Acreage for 8 North Central States

** Planted acres

Erosion control practices were being adopted at a rapid rate in 1942, and are expected to continue to increase in 1943 and 1944.

The rate of liming in 1942 was the highest in our history. The rate is likely to decrease by 2 million tons in 1943 and 1944.

Liming Materials, Consumption on Farms (Tons)*

State	:	1940	:	1941	:	1942 1/
Illinois	:	2,365,663	:	2,729,693	:	3,461,711
Indiana	:	1,048,143	:	1,000,520	:	1,351,594
Iowa	:	994,856	:	1,009,060	:	1,946,721
Michigan	:	289,691	:	703,596	:	694,000
Minnesota	:	48,900	:	101,545	:	333,852
Missouri	:	1,392,974	:	1,558,799	:	1,768,403
Ohio	:	813,875	:	1,145,429	:	1,571,870
So. Dakota	:	-	:	-	:	-
Wisconsin	:	770,974	:	875,487	:	1,631,143
Total	:	7,715,076	:	9,124,129	:	12,759,401

1/ This total represents limestone spread by participators in the AAA program. Estimated total for all farms - 14,000,000 tons.

* Prepared in Economics & Research Section, North Central Division, AAA, 6/8/43.

LAND IN FARMS USED FOR - -

State	CROPLAND		PASTURE		WOODLAND	
	Present	Est. 1944	Present	Est. 1944	Present	Est. 1944
		% Increase		% Decrease		
Illinois	18,252,620	7.52	7,462,365	10.0	1,910,327	same
Indiana	9,854,044	11.11	5,143,060	10.0	2,361,782	same
Iowa	20,358,538	5.08	9,825,065	10.0	1,296,739	same
Michigan	7,977,746	12.17	4,971,262	10.0	2,710,129	same
Minnesota	19,058,166	4.09	7,392,547	10.0	2,868,722	same
Missouri	12,638,346	2.14	12,633,560	10.0	6,952,048	same
Ohio	9,923,856	12.10	7,289,829	10.0	2,413,023	same
Wisconsin	9,888,748	7.65	7,055,359	10.0	4,118,899	same
Total	107,952,114	6.93	61,773,047	10.0	24,631,669	same

Prepared by Soil Conservation Service, Milwaukee, Wisconsin

SOIL CONSERVATION PRACTICES NEEDED

[illegible]

(Footnotes for table on page 9)

* It is believed that during the war practically all farmers will intensify their cropping plans, which will tend to disrupt already established rotations and discourage the establishment of improved rotations. This table, therefore, is intended to reflect the fact that on large acreages of cropland farmers will need to reconsider their cropping plans when the war is over, and get back to an improved rotation that will help to rebuild fertility levels, which will have been reduced by the intensified cropping systems followed during the emergency.

** Mowing pastures is a practice that is apt to suffer because of labor shortage. Where it is a practice to mow twice a year, this may be reduced to once a year. Others who are not accustomed to mowing pastures are not likely to begin, while there is an acute labor shortage. This is a practice which should be repeated on the same acreage every year, and these figures are intended to indicate the extent of the job annually.

NOTE: Since the Conservation Needs tables for Michigan and Missouri are not yet completed, figures for those States are omitted and will be supplied later.

Drainage figures are not included in this table. As a practice, there is no other that will contribute as much, taken alone, to food production. In preparing the Conservation Needs tables, it was found there was a dearth of reliable drainage information available. Soil Conservation Service technicians are working on this problem in the field, and the drainage program will be expanded during the next two years. More reliable information will be accumulated for presentation to the committee at a later date. There is a great interest in drainage now on the part of farmers in all states of the region. The exceptionally wet year in 1942, and the extensive spring storms in 1943 have focused this interest. Farmers have the money. Tile is available, but labor and necessary equipment are not available. To the extent ditching machines and draglines can be secured, drainage of wet lands will go forward rapidly during 1943 and 1944.

III. Farm Labor and Rural Manpower

1. Trends in 1943 Farm Labor Situation

Last fall, and again in the early spring of 1943, there was much concern over farm labor shortages. As the 1943 season has advanced, however, it is evident that the number of farmers who wanted a full-time man but found none available is proportionally small. Directives of Selective Service to local boards had slowed up the drain of farm youth into the armed forces. The situation was further improved during late March and April with the return of many farm-reared city workers. Some of these were permanently making their choice between agricultural and industrial employment. Others had been temporarily laid off from industrial jobs, but were anxious to remain in a deferable occupation.

Many farmers agree that the farm labor situation would be further alleviated if they had extra housing to accommodate married hired men. In general, the Midwest has depended upon family labor and single hired men, and little in the way of extra housing for hired labor has been needed. Consequently, the depletion from the farm labor force of single men in greater numbers than married men finds the farmer facing a housing obstacle in obtaining labor.

One of the difficult adjustments in farmer thinking and action that lagged badly in 1941 and 1942 was recognition of the necessity for paying higher wages. Dramatization of the farm labor shortage during the winter helped to awaken this recognition. Farmers offering \$75 to \$90 per month with usual perquisites found themselves this spring not only holding their labor but actually drawing labor from industry.

The decentralization of the farm labor program seems to be a recognition of the fact, now pretty generally admitted by general farmers, that the solution of the year-around labor problems must come largely from within their own community.

The obvious willingness of village, town and city workers to assist during the coming summer in peak load periods has created optimism about getting seasonal jobs handled. The organization for handling volunteers for short-time farm jobs, as well as regular farm labor under recent farm labor legislation, gives further confidence that crops will be harvested. Experience during 1943 will definitely affect the willingness of farmers to maintain or increase acreage of crops requiring large amounts of seasonal hand labor in 1944.

War prisoners are expected to be used in a limited way in the Midwest on farms in 1943. This will be a significant source of labor only for some truck and fruit crops in limited areas. Since the major use of hired farm labor is for one or two hired men on a farm for a few days or a few months, rather than for crews of migrant seasonal labor, war prisoner labor is not expected to greatly affect the labor situation in the Midwest. If war prisoner camps were set up for 1944 to grow specific crops on specific areas of land, they could be effective in increasing food production.

2. Assumptions Regarding Workers on Farms in 1944.

In beginning the appraisal now under way of wartime production capacity in 1944, certain assumptions were made as to farm workers. In general, it was assumed that all the Lake and Corn Belt States, except Missouri, would have net increases in 1944 compared to 1942-43 in number of year-around workers as well as of seasonal workers.

(a) This was based in part on a possible national movement of 46,000 under-employed farm workers from surplus labor states. The present prospects for any such interstate movement does not seem promising. The Summary of Recruitment and Placement Activities by FSA Regions II and III during the spring of 1943 shows a total of 1,743 year-around farm labor placed, but largely within the states where recruited. That there may be large numbers of under-employed available if the situation demands it is indicated by a Survey of Manpower for War Work in Eastern Kentucky, released by BAE, May, 1943. The Survey estimates 63,000 available workers in the 33 Eastern Kentucky counties as of December 1, 1942. Included are 28,000 men who are heads of families, 19,000 other men, and 16,000 women who are neither wives nor heads of households. These are persons aged 15 to 59, not now having a war job and not productively engaged on their own farms, and not having any serious handicaps to prevent them from changing work. It is clear from the survey that a large part of this labor reserve will be most readily available in family groups.

(b) The farm manpower situation in 1944 will necessarily be influenced by industrial labor needs and the demands of the armed services. That it may be possible for Selective Service to continue the present liberal policy toward farm labor is indicated by recent statements from the War Manpower Commission.

In developing the year-around worker assumptions, major emphasis was given to an assumed redistribution of workers aimed at more effective use of those already engaged in agriculture. The BAE Statistical Summary of May 31, 1943, however, makes clear that the number of farm workers May 1 this year is the smallest on record for the date - a situation that has occurred repeatedly since farm employment reached an

all-time low in January this year.

(c) Recruitment, training and placement programs may be expected to operate in 1944 in a more effective and coordinated manner than in 1943.

(d) The available labor supply in relation to the production task will call for the most effective use of labor and machinery resources of individual farms and of communities.

Less than one-quarter of the farm labor will be hired; over three-quarters will be family labor. The eight states in the North Central Area, according to BAE Farm Labor Reports, utilized farm labor as follows:

April 1939	Family - 1,931,000	Hired - 433,000 (17%)
April 1942	Family - 1,903,000	Hired - 408,000 (18%)
July 1939	Family - 2,116,000	Hired - 618,000 (22%)
July 1942	Family - 2,111,000	Hired - 602,000 (22%)
September 1939	Family - 2,046,000	Hired - 617,000 (23%)
September 1942	Family - 2,007,000	Hired - 640,000 (24%)

The smaller number of workers in 1942 (except for the larger number of hired workers in September 1942 as compared to September 1939) produced more than the large numbers of 1939. The numbers in 1943 are still smaller than in 1942. Both farm families and farm hired help are evidently working harder and probably longer hours than formerly. Even if there should be a net increase of farm labor and more adequate mechanization available in 1944, there will still be heavy pressure on farm family labor and year-around hired labor, and an insistent demand for short-time workers when needed, if 1944 production is to be increased over 1943 and 1942.

IV. Farm Income, Capital and Credit

Under this general heading, consideration is given to the impacts of the present war boom on the financial position of farmers as we can now judge or measure them.

1. Farm Income and Accumulated Cash Reserves.

Farm income rose to a new high level in 1942. The estimated cash farm income in the eight North Central States to farm operators for their crops, livestock and government payments in 1942 was \$5,742,103,000. This is 78% above the cash farm income of 1940. Income from livestock will be higher in 1943 than in 1942, but the feed situation will be increasingly acute. Income from crops depends upon the weather and price ceilings and subsidies.

There is nothing in the picture the picture that would indicate that 1944 gross farm incomes would decline much under these high figures, even with lower crop yields that can be expected with more normal growing weather. However, increasing labor and other costs may make some inroads on net income.

Cash Farm Income and Government Payments
in Eight North Central States*

Year	Income from Crops (\$1,000)	Income from Livestock (\$1,000)	Government Payment (\$1,000)	Total Income (\$1,000)
1940	813,097	2,184,706	215,302	3,213,105
1941	976,572	3,028,473	157,006	4,162,051
1942	1,281,901	4,210,864	255,908	5,742,103
1943**	up	up	slightly down	up
1944**	slightly down	slightly down	down	slightly down

* Farm Income Situation - BAE, Feb. 1943

** Prospective direction from previous year

This doubling of farm income within the last few years has put Midwest agriculture definitely on a "war boom" basis. Although we have

no measure of liquid cash reserves that farmers are accumulating above current mortgage and interest payments, it is known that a substantial liquid reserve is going into government bonds and into bank accounts. If present ratios between farm prices and costs obtain through 1944, and even with increased income taxes, there will be a substantial liquid reserve available for immediate spending for delayed demands.

2. Farm Mortgage Debt.

Farm mortgage debt in the United States was relatively low before World War I, amounting in 1910 to about \$3,207,863,000, or about nine per cent of the value of farm real estate. In 1923 the debt reached a high point of about \$10,786,621,000, and by 1942 it had declined to about \$6,713,835,000, or about 18 per cent of the farm real estate value. It is estimated that the rate of decline in debt was greater in 1942 than in 1940 and 1941, apparently reflecting increased net farm income. 1/

The future trend in the amount of farm mortgage debt will be influenced greatly by the amount of sales activity and new financing in the farm real estate market and by a closely related factor, the extent of liquidation of old mortgage debt through principal repayments. Estimates of the net effect of the various opposing forces are based upon the assumptions that a runaway inflation will not occur, and that the war will not end before late in 1944.

Activity in the farm real estate market has recently been on the increase, and land values have been substantially higher. Buyers' initial equities in the percentage of the purchase price have tended to remain constant, indicating higher prices per acre, down payments, and debt. This indicates that the volume of new loans will probably increase in 1943 and 1944, depending upon the amount of activity in the land market.

1/ Division of Agricultural Finance, BAE

Higher loans are being offset, in part, by larger and earlier principal repayments, a factor which probably will continue to operate in 1943 and 1944. Increases in debt resulting from the transfer of creditor-owned lands into the hands of willing owners have largely been completed by January 1, 1943. Sales by estates and individuals have increased as sales by creditors declined.

Principal repayments on farm mortgage debt have been substantial during the past two years of very high farm income. In the North Central States cash sales of previously mortgaged farms have also been a factor in the liquidation of debt. Principal repayments will probably continue to be substantial during 1943, but may decline during 1944 as increased production costs and taxes tend to reduce net profits. Cash purchase of farms may also decline, particularly if land values continue to increase and savings are used for taxes and bond quotas.

It has been estimated that, if in 1943 the decrease in debt approximates that of 1942 or becomes even greater, the farm mortgage debt in the United States will be reduced from \$6,600,000,000 to \$6,450,000,000, and may even go as low as \$6,350,000,000 during 1943. ^{1/} During 1944 the rate of decline may slacken somewhat, so that by January 1, 1945 the farm mortgage debt may well be between \$6,200,000,000 and \$6,300,000,000.

Unless a runaway land market develops, it is probable that agriculture will effect some reduction in its real estate mortgage debt in 1943 and 1944. Undoubtedly certain individuals will contract debts in excess of their long-term repayment abilities, but they may well retain ownership of land as long as high income and land values are maintained.

^{1/} Op. cit.

Estimated farm mortgage debt, North Central
Region (as of January 1)

Year	Thousand dollars	Percent	Year	Thousand dollars	Percent
		of 1910			of 1910
1910	1,589,454	100	1940	2,624,171	165
1915	2,436,259	153	1941 1/	2,591,600	163
1920	3,756,395	236	1942 1/	2,549,600	160
1925	4,459,585	281	1943 1/	2,506,600	158
1930	3,998,841	252	1944 1/	2,430,500	153
1935	3,019,787	190	1945 1/	2,373,600	149

1/ The trend from 1940 to 1945 in the North Central Region is the same as that estimated for the United States.

3. Use of Production Credit.

In the Corn Belt the total amount of short-term loans to farmers, held by insured commercial banks, agencies supervised by the Farm Credit Administration and the Farm Security Administration, as of July 1, 1942 was slightly below the amount held on July 1, 1941 (see table which follows). Loans held by insured commercial banks have declined since 1940, while loans of federal agencies have increased. Over a period of years the trend in total loans has been unsteady, even in peacetime, and may be more variable in wartime.

It is probable that with continued high net farm income in 1943 the demand for new loans will be only moderate. Increased production costs and somewhat lower net profits in 1944 may result in an increased volume of loans at that time. It has been estimated that the volume of short-term loans from the sources listed above for the nation may be about one-fourth larger on December 1, 1944 than on December 1, 1941. If the same increase occurs in the Corn Belt, it will mean a volume of loans of about \$712,599,000 late in 1944.

There may be a tendency for farmers to underestimate the amount of liquid capital needed in the post-war period as there will be a

large amount of machinery to be replaced, new types of machinery to be purchased, and buildings to be repaired and modernized.

The experiences of World War I indicate that the farmer who is able to keep short-time debts down to the point where they can be readily repaid from current production is safeguarding his economic future in a very effective way. A farmer who has a productive farm and only a modest real estate debt has a degree of economic security that is attained by few other groups in our society.

(See following page for table)

Amount of short-term loans to farmers held by insured commercial banks,
 agencies supervised by the Farm Credit Administration and the
 Farm Security Administration, showing indices, Corn Belt
 States, July 1, 1937 to July 1, 1942 1/

July 1	Insured commercial banks		Agencies supervised by F.C.A.		Agencies supervised by F.S.A.		Total from three sources listed	
	Amount	1937=100	Amount	1937=100	Amount	1937=100	Amount	1937=100
	(\$1,000)		(\$1,000)		(\$1,000)		(\$1,000)	
1937	228,317	100.0	56,897	100.0	34,659	100.0	319,873	100.0
1938	289,446	126.8	59,935	105.3	43,092	124.3	392,473	122.7
1939	435,565	190.8	65,274	114.7	57,428	165.7	558,267	174.5
1940	474,113	207.7	68,347	120.1	64,400	185.8	606,860	189.7
1941	426,883	187.0	74,934	131.7	68,262	197.0	570,079	178.2
1942	419,035	183.5	78,003	137.1	68,485	197.6	565,521	176.8

1/ Agricultural Finance Review, November 1942, Vol. 5, p. 75. Illinois, Indiana, Iowa, Minnesota, Missouri, Nebraska and Ohio.

4. Land Market Situation.

The land market in the North Central Region has been characterized in the last two years by rapidly rising land values. Average prices in the spring of 1943 were about 15 per cent higher than in the same period of 1942 which, in turn, was about 10 per cent higher than in 1941. 1/

The increases in price of land recorded in the spring of 1943 have been accompanied by a general increase in numbers of transfers recorded. Insurance companies and other creditor owners have declined in importance, as sellers of farm real estate and sales by estates and by individuals have increased in importance. Up to now the large number of holdings offered for sale by creditor owners has been a factor in holding down real estate prices.

Farmers continue to be the most important class of buyers, while non-farmer buyers have attained importance in certain local areas.

The advance in recorded sales prices of farm real estate of more than 25 per cent in the last two years has been associated with substantial increases in farm income. Cash farm income and government payments, per acre, in the United States in 1941 and 1942 were roughly 25 and 65 per cent, respectively, above 1940 income and payments. Residual cash returns per acre (for capital, management, and family labor) in 1941 and 1942 were approximately 40 and 150 per cent, respectively, above 1940 residual returns.

Purchasers of farm real estate are weighing, of course, the possibilities of securing high returns during hostilities, the probable duration of the war, the effect of minimum price guarantees for a period after fighting ceases, and the probable level of farm prices during

1/ BAE - North Central Land Market Report.

the post-war period. Many purchasers believe that although land values have increased, large farm incomes during the next year or more will permit them to pay for the property without undue hardship.

The proportion of reports from farm real estate purchasers listing "speculation" as the reason for purchase is currently higher than at any previous time in 1941 or 1942.

Quick resale of farm properties at considerable profit is receiving considerable publicity and is speculative in effect. A study of transfers in 15 counties in the region reveals that purchasers who resold the land they bought in 1941 and 1942 realized an average profit consisting of appreciation in sales value of about 24 per cent of the original purchase price. Tracts resold averaged 10 in number per county. About 32 per cent of the resales were made by farmers. In addition 51 purchasers, about 50 per cent of whom were farmers, resold portions of recently acquired properties.

Probably the most significant feature of the farm real estate market situation is the tremendous supply of available purchasing power in the hands of people, many of whom are relatively unfamiliar with investment possibilities other than real estate and real estate mortgages. The supply of prospective purchasers who want to acquire land as a home, an investment, an inflation hedge, or for speculation appears to exceed greatly the present number of prospective sellers. The supply of land held by unwilling owners is rapidly being depleted and higher bidding probably will be necessary in order to acquire desirable land in the near future. It is likely that there will be continued pressure for higher farm land prices as long as farm income remains high. This pressure will continue during the period when military forces are demobilized.

Important market factors tending to retard further price increases include high taxes, bond quotas, the confused post-war outlook and the deep impression made on the minds of all people by the deflation following the last war.

The immediate outlook is for a continuation of the upward trend in sales prices for land. It is not improbable that further value increases will be accompanied, or at least followed, by increases in the number of debt commitments of individuals in excess of their probable repayment ability.

5. Land Market Controls. 1/

The present volume of funds potentially available for investment in farm lands, or other property, is so large and the undesirable consequences of runaway land prices are so apparent, that certain precautionary measures appear desirable at this time. Rationing of consumption goods has only served to increase the pressure of funds in the capital goods markets where investment in farm lands is generally more attractive than investment in the securities markets, or in urban real estate.

General measures for effecting the desired objectives include: (1) heavier taxation on all groups of people able to pay; (2) government borrowing and immobilization of peoples' savings; (3) control of agricultural commodity prices; and (4) the educational program of agri-

1/ More complete discussions of this subject include the following:
"Land Boom Controls" by William G. Murray, The Iowa State College Press, pamphlet #9 in the series - Wartime Farm & Food Policy.
"The Farm Real Estate Market in Wartime" by M. M. Regan, Journal of Land & Public Utility Economics, Vol. XVIII, No. 2, May 1942.
"Land Market Developments and the War" by M. M. Regan and Fred A. Clarenbach, Journal of Farm Economics, Feb. 1943.
"Land Market Regulations" by Wm. G. Murray, Journal of Farm Economics, Feb. 1943.

cultural colleges and government agencies to encourage farmers to pay debts and avoid purchase of land at high prices and with small down payments. These measures, if forcefully pursued, will affect the general inflation picture, but may not be as effective within the more limited field of the land market because of the large increases in farm income which have already occurred.

More direct emergency controls generally suggested for consideration are as follows:

1. A temporary heavy tax on capital gains from resale of farms, designed especially to discourage short-run speculation in land.
2. Control of credit to reduce excessive credit expansion.
3. A tax on transfers of farm real estate to prevent, among other things, outside liquid assets from seeking investment refuge in farm real estate.
4. Land price ceilings and purchase permits.

A progressive program of action should be formulated, involving the adoption of many, if not all, of these measures, singly or in combination, when and as market conditions indicate such measures are required. Intensification of all four of the general measures listed at the top of this page appears desirable with early enactment of a heavy tax on capital gains. The tax proposed is a tax on the net increase in value between purchase and sale, when both purchase and sale take place within a defined emergency period. Such a tax would apply only to properties transferred more than once during the period. First transfers would not be taxable so as not to interfere significantly with purchase for long-term operation or investment. Plans for the other more stringent measures should be developed and applied as need for further control is indicated.

V. Probable Condition of Farm Machinery, Equipment, Fences,
Buildings and Household Equipment.

Without attempting to measure the deferred demand for farm machines, buildings and conveniences on the farms and in the farm homes, this section attempts to point out the most probable situation with respect to the serviceable condition and supply of these items.

1. Farm Machinery.

Fortunately, most sections of the Midwest were fairly well equipped with the machinery required for the operation of farms under normal conditions before farm implement factories began converting to other war production.

Farm machinery production is now being allocated on the basis of production during 1940 or 1941, whichever year shows the greatest production for the individual items involved, with provisions for adjusting machinery production in accordance with wartime demands. These were the years of high production for farm machinery, since increased farmer purchasing power was being used to convert to mechanized equipment when replacing worn-out equipment. The overall production of farm machinery during the year of 1941 was approximately 120 percent of that for 1940. The 1942 scheduled production was approximately 83 percent of the 1940 production. Scheduled production for 1943 originally was set at approximately 23 percent of the 1940 base period production, but was later raised to about 40 percent. However, a considerable amount of machinery authorized under this change was not produced in 1943 and will be available in 1944. The 1944 allotment is 80 percent of the 1940 base.

To date the farm machinery situation has not been so difficult as to cause general curtailment in crop production. A number of farmers have been badly inconvenienced by lack of machinery, and the factors of weather and inability to procure needed machinery caused the

loss of some soybean acreage in 1942. The demand for machinery to replace lost manpower is extremely great on some farms. During the latter part of 1942 and in early 1943 certain items of used farm machinery were being sold at prices out of proportion to the cost of new items. Effective January 9, 1943, ceiling prices were placed on all sales of the following labor-saving used farm machines: farm tractors (except crawler tractors), combines, corn pickers, corn binders, and hay balers (motor or tractor operated).

Fortunately, the permitted large production of repair parts has contributed considerably to maintaining, and increasing, crop production. However, because of faulty distribution of repair parts and welding rods, some individuals have been greatly inconvenienced.

If present and prospective policies on farm machinery and labor are continued, it is believed that the farm machinery situation will not give cause for any decreases in crop production during 1944. An immense deferred demand is being created for new machinery, particularly for some of the special types which have proved to be great labor savers.

2. Farm Buildings.

A. As shown by 1940 Census.

The present value of farm houses in the states in this region, as shown in the summary of 1940 Census data in the table - "Value of Farm - Rural Houses" - indicates that from 40.5 per cent of all farm houses in Iowa to 78.2 per cent of all farm houses in Missouri are valued at less than \$1500, while in most of the states in the region the percentage valued at less than \$1500 runs between 50 and 60 per cent. In Missouri, 60 per cent are valued at less than \$1000. From 79 per cent to 94.5 per cent in all states of the region are valued at less than \$3000.

The average amounts spent for building materials in 1939, as shown in the table - "Expenditures for Building Materials" - including expenditures for lumber, roofing materials, hardware, cement, paint, fencing materials, etc., as indicated by a 2 per cent sample of the 1940 Census, ranges from \$110 in Missouri to \$217 in Iowa. In other states the range was from \$149 to \$165 per farm. These figures are very close to the figures for those farms in the group classified as having a value of production below \$10,000. Farms in the "over \$10,000" group spend approximately on the average between \$650 and \$1000 per farm, but only a very small percentage of farms in these states fall in this group.

The table entitled "Rural - Farm Housing Characteristics" points to some very significant facts. Of all dwellings, from 24.5 per cent to 36.2 per cent were reported in need of major repair. In general, rural-farm houses are in greater need of major repair than rural-nonfarm or urban dwellings.

In general, there is less crowding in the farm houses in this region than in some other areas of the United States, since only from 3.1 per cent in Iowa to 8.9 per cent of the houses in Minnesota have 1.51 or more persons per room. Missouri is an exception, with 14.6 per cent of the houses having 1.51 or more persons per room. The number of rooms per house ranges from an average of 4.44 in Missouri to an average of 6.56 in Wisconsin.

Lack of facilities commonly found in urban dwellings continues to indicate a problem of high cost of rural installation, as well as some other factors. From 71.9 per cent in Michigan to 93.5 per cent in Missouri do not have running water in the house. In most states in this region the percentage is between 77 and 88 per cent.

Electric lights are absent in 29 per cent of the dwellings in Michigan, 69.7 per cent in Minnesota, and 82.3 per cent in Missouri. The other states range from 38.6 per cent to 60.5 per cent of the homes not having electric lights.

Between 80 and 88 per cent have outside toilets or privies, while from 2.1 to 7 per cent have no toilet or privy.

The range in the percentage of houses having central heating is from 4.8 per cent in Missouri to 27.6 per cent in Ohio.

Value of Farm-Rural Houses*

	Mich.	Minn.	Wis.	Iowa	Ind.	Ill.	Mo.	Ohio
Less than \$1000	32.9	36.6	31.3	20.0	37.8	35.4	60.0	27.4
\$1000 - \$1499	21.7	20.1	20.1	20.5	21.8	19.0	18.2	18.7
\$1500 - \$1999	13.9	14.9	15.1	16.0	13.3	12.0	8.2	13.9
\$2000 - \$2999	17.4	17.5	20.4	23.8	15.5	16.9	8.1	19.2
\$3000 - \$4999	10.7	9.0	10.7	15.8	8.6	12.0	3.9	14.4
\$5000 - \$7499	2.7	1.5	1.9	3.6	2.3	3.7	1.1	4.9
\$7500 - \$9999	0.4	0.2	0.3	0.3	0.3	0.5	0.2	0.9
\$10000 - \$14999	0.2	0.2	0.2	0.1	0.2	0.3	0.1	0.4
\$15000 - \$19999	-	-	-	-	-	0.1	-	0.1
\$20000 or more	-	0.1	-	-	-	0.1	-	0.1

Expenditure for Building Materials - 1939**

(Includes expenditures for lumber, roofing materials, hardware, cement, paint, fencing, etc.)

	Mich.	Minn.	Wis.	Iowa	Ind.	Ill.	Mo.	Ohio
No. Farms Reporting	83,444	100,495	108,525	111,241	71,205	96,328	92,090	89,377
Average per farm re- porting	\$ 152	\$ 153	\$ 132	\$ 217	\$ 165	\$ 200.	\$ 110	\$ 149

* Taken from 1940 Census - Housing - Second Series

** Taken from pp. 44 - 46 - Specified Farm Expenditures - Technical Release No. 5, based on 2% sample, 1940 Census.

Rural-Farm Housing Characteristics*

Houses:	Unit	Mich.	Minn.	Wis.	Iowa	Ind.	Ill.	No.	Ohio
With 1.51 or more persons per room	%	5.2	8.9	5.7	3.1	5.8	5.7	14.6	4.0
Having rooms	No.	6.40	5.86	6.56	6.64	5.90	5.96	4.44	6.53
Needing major repair	%	28.8	26.6	30.8	24.6	24.5	30.4	36.2	26.1
Not having private bath	%	84.9	92.9	89.4	86.0	88.8	87.7	95.6	84.2
Not having running water in house	%	71.9	87.9	81.0	78.6	82.1	84.0	93.5	76.9
Not having indoor toilet (having outside toilet or privy)	%	80.6	88.5	85.4	82.1	85.5	84.2	88.3	80.6
Not having electric light**	%	29.	69.7	49	60.5	48.2	59	82.3	58.6
Having no toilet or privy	%	2.1	3.0	2.5	2.8	2.3	2.6	7.0	2.2

* Taken from 1940 Census, Housing, First Series

** Taken from Farm Family Living, 1940 Census Facts, p. 41

B. As shown by a study of FSA farm ownership loans (tenant purchase)

A study of building costs of farm ownership cases (TP) in this region over a five-year period, 1937-42, indicates that there has been a gradual increase in the average amount loaned for buildings during this period. This may be due to:

1. Increase in price of building materials and labor.
2. More emphasis on adequate building program as the TP program progressed (increased recognition of need).
3. In some cases the Price Limitation Amendment forced purchasing of farms that needed more building repairs. This also explains the reason why the increase by year in amount loaned for building is greater than the total loan increase by year.
4. Fewer farms were purchased at the beginning of the program when there was better choice of good farms with better buildings available.

In a study of the figures in the following two tables, it is necessary to recognize the fact that the building cost figures indicated do not always represent the actual cost, particularly since the value of the family's own labor has not been figured in. These costs are based on estimates and were used as the basis for loans.

In the table "Summary of Average Costs of Various Buildings and Groups of Buildings, FO Program, 1939-42," the estimated cost of house, barn and other farm buildings in FSA Region II (Michigan, Minnesota, Wisconsin) have not been separated. The average estimated expenditure for purchased material and hired labor was, for all buildings on all farms purchased in Michigan, \$1357; in Minnesota, \$1113; in Wisconsin, \$1215.

As shown in the table - "Significant Loan Data by State for Each Year of Farm Ownership Program" - the number of new houses constructed in Region III (1939-42) ranged from 7 in Ohio to 104 in Missouri. The total number of new houses constructed in FSA Region III (Illinois, Indiana, Iowa, Missouri, Ohio) during this period was 161. This means that new houses were constructed on 5.4 per cent of the 2991 farms purchased. The cost of new houses ranged from an average of \$1500 in Missouri to \$2493 in Illinois.

On the 2991 farms purchased in the five states, 2800 houses, or 93.6 per cent, were repaired or remodeled at an average cost of from \$273 in Iowa to \$387 in Indiana.

New barns were constructed on 13.3 per cent of the 2991 farms. The 399 new barns were constructed at a range in average cost of from \$1060 to \$1950.

A total of 2580 barns were repaired or remodeled, or 86.3 per cent of all barns had some work done on them at an average estimated cost range of from \$270 in Iowa to \$1444 in Indiana.

The average cost of all agricultural buildings repaired or remodeled ranged from \$618 in Iowa to \$749 in Illinois.

Summary of Average Costs of Various Buildings and Groups of
Buildings, Farm Ownership Program, 1939-42

State	HOUSES				BARNs				AGR'L BLDGS.		ALL BUILDINGS	
	New		Repair and Remodeling		New		Repai red & Remodeled		New, Repaired & Remodeled		New & Repaired Houses, Barns, Other	
	No.	Average Cost	No.	Average Cost	No.	Average Cost	No.	Average Cost	No.	Average Cost	No.	Average Cost
Reg. III Illinois	15	\$2493	541	\$ 355	60	\$ 1500	500	\$ 310	560	\$ 749		
Indiana	12	2274	340	387	14	1800	345	444	360	647		
Iowa	23	1768	630	273	96	1630	560	270	662	618		
Missouri	104	1500	814	350	208	1060	705	315	914	680		
Ohio	7	2256	475	333	21	1950	470	365	495	741		
Reg. II Michigan											204	\$1357
Minnesota											459	1113
Wisconsin											344	1215

Significant Loan Data by State for Each Year of Farm
Ownership Program

	1937-38	1938-39	1939-40	1940-41	1941-42	Total
<u>FSA REGION II</u>						
<u>Michigan</u>						
No. Loans	17	40	47	80	80	264
Average Size Loan	\$6415	\$7031	\$9519	\$7200	\$7480	\$7622
Ave. Cost all Bldgs.	\$481	\$ 970	\$1267	\$1397	\$1749	\$1357
<u>Minnesota</u>						
No. Loans	29	65	102	131	132	459
Ave. Size Loan	\$7398	\$8432	\$8590	\$8595	\$9096	\$8639
" Cost all Bldgs.	\$ 425	\$ 688	\$ 993	\$1110	\$1570	\$1113
<u>Wisconsin</u>						
No. Loans	18	41	68	99	118	344
Ave. Size Loan	\$7306	\$7999	\$7952	\$6993	\$6966	\$7309
" Cost all Bldgs.	\$ 586	\$1000	\$1156	\$1300	\$1349	\$1215
<u>FSA REGION III</u>						
<u>Illinois</u>						
No. Loans	34	81	116	157	172	560
Ave. Size Loan	\$9244	\$9847	\$11071	\$10273	\$9937	\$10211
No. New Houses	1	2	3	3	6	15
Average Cost	\$2400	\$2240	\$ 2467	\$1980	\$2863	\$2493
No. Houses Remodl'd	32	80	113	151	165	541
Average Cost	\$ 87	\$ 247	\$ 397	\$ 406	\$ 384	\$ 355
Ave. Cost new constr. & remodelg. of Agri- cultural bldgs.	\$ 247	\$ 720	\$ 850	\$ 819	\$ 730	\$ 749
<u>Indiana</u>						
No. Loans	23	49	78	110	100	360
Ave. Size Loans	\$8059	\$9181	\$9702	\$8845	\$9388	\$9177
No. New Houses	1	5	2	1	3	12
Average Cost	\$2500	\$1780	\$3025	\$2500	\$2445	\$2274
No. Houses Remodld.	20	40	71	108	101	340
Average Cost	\$ 163	\$ 302	\$ 415	\$ 424	\$ 406	\$ 387
Ave. Cost New Constr. & remodeling of Agr'l Bldgs.	\$ 276	\$ 728	\$ 750	\$ 833	\$ 406	\$ 647

(continued on following page)

(Continuation of table on preceeding page)

	1937-38	1938-39	1939-40	1940-41	1941-42	Total
<u>Iowa</u>						
No. Loans	36	84	152	1196	194	662
Ave. Size Loan	\$9337	\$10308	\$9041	\$8942	\$9332	\$9274
No. New Houses	1	4	1	12	5	23
Average Cost	\$2000	\$1738	\$1315	\$1438	\$2629	\$1768
No. Houses remodld.	30	80	150	182	188	630
Average Cost	\$ 216	\$ 285	\$ 250	\$ 249	\$ 318	\$ 273
Ave. Cost New Constr. & remodeling of Agricultural bldgs.	\$ 385	\$ 867	\$ 574	\$ 601	\$ 605	\$ 618
<u>Missouri</u>						
No. Loans	56	1126	178	290	264	914
Ave. Size Loan	\$5965	\$6413	\$7213	\$5663	\$6164	\$6231
No. New Houses	3	8	27	32	34	104
No. Houses remodeled	56	114	158	258	228	814
Average Cost	\$ 152	\$ 326	\$ 372	\$ 347	\$ 397	\$ 350
Ave. Cost New Constr. & Remodeling of Agr'l bldgs.	\$ 387	\$ 774	\$ 739	\$ 648	\$ 692	\$ 680
<u>Ohio</u>						
No. Loans	30	72	103	147	143	495
Ave. Size Loan	\$7654	\$7845	\$8922	\$7998	\$8087	\$8173
No. New Houses	1	2	1	3	0	7
Average Cost	\$2200	\$1746	\$2450	\$2550	-	\$2256
No. Houses remodld.	27	69	97	140	142	475
Average Cost	\$ 260	\$ 157	\$ 375	\$ 364	\$ 374	\$ 333
Ave. Cost New Constr. & remodeling of Agr'l Bldgs.	\$ 208	\$ 653	\$ 645	\$ 792	\$ 914	\$ 741

C. Outlook for 1944.

The condition of existing farm buildings by 1944 will not be changed significantly from the present status. Enough lumber and roofing are available for sufficient current repairs to prevent abnormal depreciation. No significant amount of new building or remodeling will be done. A similar situation exists for fencing.

Many farms are now in need of an additional house for hired labor. A limited number would be built now if materials were available. This increased need for tenant houses arises from the fact that farms formerly relying on single men could get year-around married help if they had housing, and single men are not available. This situation will not likely improve by 1944. A policy of allocating building materials for tenant houses may be advantageous from now on, and would serve to make farm labor more available in 1944.

It seems obvious that a large deferred demand for new farm buildings, for repair and remodeling of existing buildings for greater comfort and convenience is accumulating for the time when materials and labor will be available. If agricultural engineers and rural architects can have available blueprints and plans for new farm buildings, and for remodeling old ones, they may find such bulletins and plans to be as popular as bulletins on Victory Gardens have been in 1943. Emphasis needs to be placed on convenience and time-saving arrangements, both for the service buildings of the farm and for the home as well. Probably no greater opportunity exists to develop a saving of time and adding convenience on the farm than could be gained by widespread modernization of farm kitchens and improvement of storage facilities.

Since a barrier to improvement of rural housing lies in the cost

factor, emphasis placed on types of plans, on methods of construction, and on the development of materials that will make it possible to construct satisfactory dwellings at a low enough cost to put them within the reach of the low income farmers will be a real contribution to the improvement of rural housing. Attention should also be given to methods of increasing incomes and providing financing for such improvements, since obtaining a loan for a so-called non-productive item is generally more difficult and costly than obtaining financing for a productive item.

A program of education aimed at the development of skills needed in house repair, upkeep and construction should be an integral part of rural adult education programs. Creating active community interest in the need for and the value to family and community of improved and decent housing for farm families can well be a part of a post-war educational program.

3. Rural Electrification.

Expansion of rural electrification between now and the close of 1944 will be restricted. Under war conditions, critical materials are available for limited extensions to farms which can actually increase food production. Recognizing the importance of food production to the war effort, the War Production Board issued Order U-1-c, allowing REA cooperatives, municipalities and private utilities to build extensions to qualified farms. These farms are the only new rural extensions outside of direct war loads to Army and Navy facilities or war plants.

Farms not connected to rural power lines, but which meet with W.P.B. requirements may request their local REA cooperative to provide service. An application for electric service is filed with the County War Boards which certify to W.P.B. the eligibility of the farm for an extension. The extension is limited to a specified distance set forth

in the certification (100 feet of extension for each animal unit). Farms having less than five animal units may not qualify.

Under Order U-1-c, it is estimated 216,154 farms located in areas served by REA cooperatives in the Midwest region are qualified for electric service. Actually less than this number can be served in light of the material situation. For the United States, it is estimated that approximately 80,000 qualified farms will be connected to rural cooperative lines during the coming year. These are the farms which require the least quantities of critical materials. Roughly, 28,000 of these are located in the Midwest Region. They will be served by the end of 1944 if materials do not become more restricted.

As indicated in the previous paragraph, farm connections will be limited this year and presumably through next year. Should the war end during this period, manufacturers indicate it would require approximately one year to fabricate sufficient materials to get general high-line construction under way on systems represented by pending applications on file with the REA. At the present time REA has approximately \$35,000,000 of applications on file for the eight states of the Midwest Region.

For the Midwest Region 932,060 farms received central station service, as of December 31, 1942. According to the 1940 Census, 1,112,611 rural farm dwellings, i.e., dwellings in which one household or family resides, were without central station service. There were 317,097 rural non-farm dwellings without rural electric service. Included with these 1,429,708 rural farm and non-farm dwellings without rural electric service are the farms whose applications for service are on file with REA. These applications will be considered for immediate construction on the ending of the war.

The results of the unelectrified farm survey now being made by REA cooperatives will provide a basis for determining more directly what farms and rural homes not represented by a pending application may be reached under REA standards of feasibility.

4. Household Equipment.

A. Status Shown by Census.

Census data provides information on only a few types of household equipment, as shown in the following table entitled "Household Equipment".

Most farms use kerosene or gasoline lights. The range in percentage is from 30% in Michigan to 82% in Missouri, with most states having from 37% to 67% homes lighted by gas or kerosene. There has been a rise in percentage of homes lighted by electricity over previous census records. The states having the highest percentage of electric lights are - Michigan, with 68.6%, and Ohio, with 50.3%. In general, figures compare favorably with the national average, which indicates that about 48% of the farms in the United States have electricity.

From 55% of the farm homes in Illinois to 73% in Wisconsin have no form of refrigeration equipment. Of those having electrical refrigeration equipment, the range is from 8.5% in Missouri to 25.3% in Ohio. In Michigan, Wisconsin, Iowa, Indiana and Ohio, a larger percentage of homes having refrigeration equipment have electrical than have ice refrigeration, while in Minnesota, Illinois and Missouri, a larger percentage have ice refrigeration.

In general, the largest percentage of families use wood as fuel. The range in percentage is from 24.4% in Ohio to 82.1% in Minnesota. In Illinois and Ohio more families burn coal and coke than burn wood. The percentage using electricity for fuel ranges from 1.1% in Missouri to

15.1% in Indiana.

Radios are found in from 60.5% of the farm homes in Missouri to 87.3% in Iowa. In 1930 21% of the farm homes had radios.

The range of percent having central heating is from 4.8% families in Missouri to 27.6% in Ohio, most states having central heating in from 20 to 26% of their farm homes.

Census figures do not indicate percentage and types of washing machines and ironing equipment that is in use - two types of equipment which are especially important in lessening the strain of household work.

B. Probable Status - 1944.

Due to shortage of essential materials, diversion of labor into war industries, and controls set up to regulate the output, purchase and sale of household equipment and other items, there will be a shortage of such articles as refrigerators, vacuum cleaners, washing machines, sewing machines, pressure cookers, plumbing, electric lighting appliances, bed springs, mattresses, floor coverings, etc.

The need for replacement of and the purchasing of new household equipment and other items by families who now have money and who have not had such things as washing machines, sewing machines, refrigerators, etc., will tend to step up the demand for such items by the end of 1944.

The trend toward standardization, simplification and reducing of the number of models of various items is only well begun and will undoubtedly continue during the coming years. Substitute materials used in the making of various household items have added to the problem of consumer education which should be carried on more intensively than ever during 1944.

Household equipment studies should be conducted by various college research centers in cooperation with manufacturers to the end that new models and new types of equipment be so constructed as to best serve the purpose for which they are to be used. Help and advice of home economists should be enlisted in such studies.

Household Equipment in Farm Homes*

Unit	Mich.	Minn.	Wis.	Iowa	Ind.	Ill.	Mo.	Ohio
<u>Lighting Equipment</u>								
Electric	68.6	29.9	49.3	39.5	49.2	38.5	15.9	59.3
Gas	0.4	1.9	0.8	2.2	0.7	1	0.5	2.4
Kerosene or Gasoline	30.1	67.3	49.0	57.1	48.9	59.3	82.2	37.1
Other	0.9	0.9	0.9	1.2	1.2	1.1	1.3	1.1
<u>Refrigeration Equipment</u>								
Mechanical	24.0	9.6	13.6	16.3	19.8	20.1	8.5	25.3
Ice	13.8	11.4	9.6	14.6	18.7	21.4	18.7	14.3
Other	2.9	6.0	3.5	4.0	4.2	3.4	7.1	4.6
None	59.3	73.0	73.3	65.1	57.3	55.1	65.7	55.8
<u>Cooking Fuel</u>								
Coal or Coke	18.7	6.7	6.4	26.8	34.9	50.6	8.5	45.0
Wood	51.7	82.1	81.4	53.3	40.3	33.0	79.4	24.4
Gas	3.3	1.8	2.3	3.8	4.6	3.8	0.9	9.5
Electricity	11.9	1.3	2.6	1.2	4.3	3.4	1.1	7.3
Kerosene	14.2	3.9	6.7	5.9	15.1	7.9	9.9	13.5
Other	0.2	4.2	0.5	8.9	0.7	1.3	0.1	0.4
None	0	0.1	0	0.1	0	0	0	0
Central Heating	26.0	19.4	27.1	26.5	16.7	22.9	4.8	27.6
Having Radio	83.7	85.3	83.0	87.3	77.5	80.4	60.5	80.2

* Taken from 1940 Census of the United States, Housing, Second Series, General Characteristics.

VI. MARKETING, PROCESSING AND TRANSPORTATION FACILITIES FOR AGRICULTURAL PRODUCTION

The physical equipment and organization of marketing, processing, and transportation facilities adjust themselves more readily to wartime changes in our economy than do most other phases of our agricultural production. By the end of 1944, adjustments in distribution channels will significantly affect the pattern of production.

Transportation

Unless weather conditions adversely affect crop production in 1944, the volume of agricultural output to be marketed is expected to be larger than in 1943, as (1) a heavy increase in grain acreage is contemplated, and (2) livestock marketings are likely to be much heavier, because existing and prospective supplies of feed will be inadequate to support our livestock population at its present level.

The greater volume of marketing will increase the strain on transportation facilities. This increased load will have to be handled by equipment and facilities the conservation of which will represent an important problem by the end of 1944. The increased freight movements have been handled so far largely through more efficient use of existing equipment. The greater efficiency in equipment utilization was brought about by: (1) Heavier loading; (2) elimination of empty back-hauls; (3) decreased time allowed for loading and unloading; and (4) consolidation of routes. Already these measures are being employed extensively, and it appears doubtful whether an appreciable increase in efficiency in the use of the available equipment will be effected in 1944.

1. Railroad Transportation.

The load which railroads will be called upon to handle will be increased by a shift from the use of motor trucks. This shift first

became evident in 1942. So far in 1943 there has been further reduction in the percentage of freight handled by trucks, and by 1944 there will be still further reduction as deterioration of existing trucking facilities progresses. This shift will largely affect the less perishable commodities that are moved over long distances and that adapt themselves to rail transportation. The sharp increase in motortruck transportation in the years prior to 1942 caused a relatively large number of old cars to be put out of service. Locomotives and freight cars which have not been in regular use for some years have been put back into operation. The number of cars for transporting livestock is adequate to meet whatever needs may arise in 1944, and there are ample facilities for shipping live poultry over long distances.

Estimated needs of freight cars are computed four times a year by the Regional Shippers' Advisory Boards for three months in advance. Their estimates for the Midwest Region (Illinois, Wisconsin, Iowa, western Indiana and northern Michigan) for the third quarter of 1943 point to an increase of 6.4 per cent in total freight loadings over those in the corresponding period in 1942. The largest increases in freight movements of all goods are estimated for fertilizer and petroleum products. Decreases in industrial products are indicated largely for building materials and canned foods. Carloadings of total agricultural products promise to be slightly larger, though significant changes are indicated for specific groups of commodities. Specifically, substantial decreases are shown for dairy and poultry products, sugar, syrup and molasses; while large increases are shown for fruits, vegetables, hay, straw, alfalfa, lumber and forest products.

Despite the tremendous increase in industrial and agricultural production to all-time high records of output, there has not been a single

week to date when weekly carloadings were as high as they were in 1929 and 1930. In fact, during the first six months of 1943, carloadings have been considerably lower than in the corresponding period of 1942. Although total carloadings in the second half of 1943 promise to be larger than in the first half, they are likely to remain lower than in 1942. Even if carloadings in 1944 should rise significantly over 1943, there is evidence that the railroads will be able to handle the increased volume of agricultural marketings.

2. Truck Transportation.

Efforts toward conservation and greater efficiency in the use of motor trucks will doubtless contribute greatly to this year's transportation problems. However, in the long run efficiency measures cannot be expected to overcome the effects of the increasing scarcity of repair parts, mechanics, and the lack of experienced truck drivers. These factors represent a greater problem than the limited number of new trucks available for replacements and the uneconomical operations of existing facilities. In addition, maximum utilization of the available equipment will also result in its more rapid deterioration, thus aggravating the difficulties.

Specific recommendations as to actions that might be taken to alleviate the trucking problem would be:

- (1) Nation-wide pooling of inventory of truck repair parts.
- (2) Increased manufacturing of repair parts so that they may be readily available when needed.
- (3) Action to provide sufficient garages and mechanics to keep present supply of trucks repaired and serviced.
- (4) Adoption of measures to prevent experienced truck drivers from drifting into different jobs.

- (5) Securing the cooperation of armed services in making available to agriculture unneeded trucks.

3. Processing Facilities.

Meat packing is the most important single industry engaged in the processing of agricultural commodities in the North Central States. Although the packing industry's physical processing facilities are considered adequate to handle the anticipated heavy livestock slaughter in 1943-44, shortage of skilled labor is likely to prove a serious bottleneck during seasonal periods of heaviest marketing. Unfavorable corn crop developments this year would greatly intensify the necessity on the part of producers to reduce their herds, and might result in the need of a permit system for marketing hogs in the coming fall and winter. Plans for such a system have already been worked out.

Small (beef) packers have been squeezed between live weight prices and wholesale ceilings; as a result, some have discontinued business. Local slaughterhouses and butchers normally handling a few head a day have increased in number and have augmented their volume of business. Many of these are engaged in custom butchering. The extent of continuation of this practice depends to a large extent upon enforcement of slaughter and rationing regulations. A tendency toward increasing concentration of the meat packing industry seems to be favored by the dominant role of federally inspected slaughter plants in supplying our armed forces and lend-lease requirements. However, the greater use of refrigeration, cold storage and freezer lockers will tend to encourage increased slaughter for local use and decentralization in packing after the war.

Food Dehydration: The great expansion in food dehydration is taking the foreground in the developments affecting the marketing of

agricultural products in 1944. The expansion in large-scale market outlets which this industry has brought about is most significant in its production-sustaining and price-stabilizing effects.

The saving of shipping space and labor involved in transporting foods of high moisture content probably has been the most important factor in the great expansion in food dehydration. (Approximately 90 per cent of the weight of fresh vegetables consists of water; dehydration reduces this percentage to less than 7 per cent; the factor of space economy has been made more significant in the use of compression processes which further reduces the volume of dehydrated vegetables.)

All indications point to a continued expansion in the requirements of dehydrated foods, and existing plant facilities for some products will have to be materially expanded in 1944 to meet the increased needs.

Although the requirements for dried eggs in 1943 call for a production 87 per cent greater than the 1942 output - in which year drying plants absorbed 16 per cent of the nation's total shell egg production - existing plant capacities are considered ample to fully meet this year's increased requirements and sufficient for any further increases in production that might become necessary in 1944.

Despite the fact that the output of dried skim milk for human consumption has been greatly increased in the past few years, the rate of production has been continuously short of expectations. Although total requirements of 900 million pounds have been announced for 1943, production has actually decreased, and so far this year has averaged approximately 14 per cent lower than in the corresponding period of 1942. In spite of the great expansion in drying facilities planned for 1944, it seems to us that a substantial increase in production such as called for cannot be brought about without relative price adjustments to effect increased farm

marketings of whole milk (instead of cream) and less feeding of skim milk to livestock.

The production of dehydrated vegetables is estimated to reach a total of 180 million pounds in 1943, which would be more than twice the 1942 output. Existing plant capacities will probably prove adequate for 1943. Considerable plant expansion may become necessary in 1944. The principal vegetables needed in dehydrated form are: beets, cabbage, carrots, onions, potatoes, rutabagas, and sweetpotatoes. The construction of additional dehydrating plants is planned in the localities where their production for processing can be most readily expanded.

While most of the products that are now dehydrated for shipment overseas will no longer be processed by this method after the war, some of the products show promise of firmly establishing themselves in our civilian food pattern. In this category are dried milk and dried eggs - foods that have real post-war possibilities in the way of bringing about production and marketing economies. Although production will have to be substantially contracted after the war, both of these products will, no doubt, survive on a greatly expanded basis relative to pre-war output.

No important characteristics have been found for dehydrated fruits and vegetables which makes them superior to the fresh product. After the war, when the exigencies of limited transportation facilities no longer exist, there will be no further need for the extended volume of vegetable dehydration and this industry will have to be largely liquidated or reconverted to other processing methods. Present indications suggest that the quick-freeze method of preserving foods will experience a great expansion after the war. A considerable part of the plant facilities used in vegetable dehydration is also used by processors of quick-frozen foods, which will facilitate conversion. It is

safe to assume that the volume of vegetables processed by quick-freezing will far exceed the extent of processing by dehydration that may be expected to survive after the war.

Interstate Commerce: Progress will be made towards the removal of interstate trade barriers, monopolistic practices and quality restrictions tending to restrict the production or interstate movement of supplies. Since trade barriers are essentially a state problem, they should be dealt with by the states. It has become increasingly evident that certain types of restrictive trade legislations are forming bottlenecks in our war economy. A policy should be endorsed of protecting the consumer against state discrimination in the way of obstructing a free flow of goods for the benefit of local groups who place their selfish interests above the common good.

Prices and Price Control: In the years preceding Pearl Harbor our national agricultural policy attempted to direct producers to adjust their operations so as to maximize returns within existing price structures. Now, our national agricultural policy has become one of adjusting prices so as to maximize production. The responsibility of directing the administration of prices to induce agriculture's productive effort in the needed directions will increasingly fall upon the War Food Administration.

If the full benefits of price adjustments designed to effect shifts in agricultural production efforts are to be secured, a policy must be adopted of announcing minimum or support prices and marketing provisions sufficiently early in the season to influence the planning of farm operations. By skillful price administration, the output of commodities considered essential to the war effort may be stimulated, and the output of non-essential products decreased. Prices can and must serve as a guide to the distribution of our national economic effort in the directions where maximum contributions to the war effort are achieved.

A system of price control that fails to provide for sufficient flexibility to give direction to production is likely to break down, since its primary objectives of preventing increases in the cost of living and to provide low-income consumers with adequate supplies of essential foods can be achieved only with a high level of production.

On the whole, prices received by farmers may be expected to be higher in 1944 than in 1943. Increased incentives will probably have to be given to producers of feed grains in the way of higher prices rather than by maintaining high hog-corn and beef-corn price ratios which have stimulated livestock production beyond our capacity to raise the necessary feed.

To prevent more extensive feeding of skim milk to livestock, adjustments in relative prices of manufactured dairy products will have to be made, and the milk-feed ratio in 1944 may be expected to be more favorable than in 1943 and 1942.

VII. The Prospective Forest Situation by 1944.

Gross area of the 8 states in this region - - - - -	288,176,640 acres
Total commercial forest area in the region - - - - -	81,626,000 "
Percentage of forest area to total area in the region	28.32 %
Total forest area in the United States - - - - -	630,000,000 acres
Percentage of forest area in region to total forest area in the United States - - - - -	12.96%
Percentage of available stand of sawtimber in region to total in U.S. as inventoried in 1938 - - - - -	4.08%

(continued on following page)

Ownership of Forest Area in Region

Private acreage

Farm woodlots

Central States	20,364,000	
Lake States	<u>15,060,000</u>	

35,424,000

Industrial forests

Central States	7,177,000	
Lake States	<u>16,478,000</u>	

23,655,000

59,079,000

Public Acreage

State, County and Municipal

Central States	250,000	
Lake States	<u>14,039,000</u>	

14,289,000

Indian Lands

Lake States	771,000	771,000
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National Forest

Central States	1,329,000	
Lake States	<u>5,522,000</u>	

6,851,000

Other Federal

Central States	111,000	
Lake States	<u>525,000</u>	

636,000

22,547,000

TOTAL - - - - - 81,626,000

<u>Acreage by Condition Classes</u>	<u>Central States</u>	<u>Lake States</u>	<u>Total in Region</u>
Sawtimber areas	9,680,000	7,123,000	16,803,000
Cordwood area	8,660,000	10,831,000	19,491,000
Satisfactorily restocking areas	5,204,000	13,442,000	18,646,000
Poor or non-restocking areas	<u>5,687,000</u>	<u>20,999,000</u>	<u>26,686,000</u>
Totals	29,231,000	52,395,000	81,626,000

This region has 4.08% of the total available stand of sawtimber in the United States, amounting to 71.9 billion board feet, according to 1939 figures. The national requirements for lumber and ties in 1943 is estimated at 32 billion board feet.

Present Status of Forest Area

Reports to the Joint Congress Commission on Forestry in 1938 and 1939 give the forest situation in the Lake States and Central States in considerable detail. The situation changed little from that time to the beginning of the war. Briefly, the picture was something like this:

Lake States: The old growth northern hardwood timber of the Lake States had been cut over to the point where there was left standing in the neighborhood of two million acres in scattered tracts. Farm woodlots of southern Michigan and Wisconsin supported an additional volume of large-sized hardwood timber. Repeated cuttings in pulpwood stands were being made before the timber reached maturity, so that the trend in the production of merchantable pulpwood by growth in existing stands was downward. To offset this a considerable acreage of plantation had been successfully established and some cut-over areas were coming back through natural regeneration so that in 25 to 50 years these areas would be producing merchantable pulpwood timber. Large areas of deforested lands still remained scattered throughout the Upper Peninsula of Michigan, northern Minnesota and northern Wisconsin. The net result was that the forest resource of the Lake States was at a low point in timber production and the indications were that this production of merchantable timber would go down as the growing stock was further depleted by uncontrolled clear cutting.

Central States: In the central states the old growth timber stands had almost disappeared. There were woodlots and forest areas in industrial ownership which supported merchantable timber. These stands, however, had been heavily culled by previous cuttings and the timber left was scattered and of low quality. The production of wood in the forest area through growth was at a low ebb. As the sawtimber stands

gradually disappeared, the timber operators had moved away so that the disparity between growth and drain in terms of cubic feet was not extremely large but production of merchantable products was at a very low level. The gap between the growth and drain of hardwood sawtimber was very great.

The Effect of the War

The advent of war to this country in 1941 brought with it a greatly increased demand for wood products for war purposes and as substitutes for metal. The result was that the production of timber products in 1941 in both the Lake States and the Central States was the largest in over a decade. This meant that the area cut over was greater than the annual average of the past five or ten years. The demand for timber products tended to encourage the closer utilization of timber cut in the woods and also the cutting of smaller immature trees. Where good forest practices had been adopted, the increased demand had little effect in either the Central States or the Lake States in changing the intensity of the cut.

Since 1941, the lumber production has gone down and the trend is still in that direction. This reduction in cutting has not been the result of decreased demand, but rather, the shortage of labor. Consequently in 1942 there was less area cut over than in 1941, and in 1943 there will be less area cut than in 1942. Little change has been noted in the type of cutting being done. In other words, reduction of the forest growing stock is proceeding in about the same way that the forests were being depleted before the war, but there is less area now being cut over annually because of the shortage of manpower with which to get the timber cut.

The war has shown the need for large-sized trees for the production of high quality timber for important and vital war uses. There is greater

reason than ever before for the practice of good forestry today. There is no indication that the shortage of labor will be relieved. It is, therefore, important that the manpower used in logging and milling be used most efficiently. This cannot be done in cutting small trees. Small trees require a greater number of mandays per thousand board feet all the way along the line of production. Furthermore, small trees do not produce the quality material which is needed for veneer, boat stock, etc. It is important for war and peace and the future security of our country that the forest resource be handled under the best forestry practices, beginning immediately.

Condition of Resource at the End of 1944.

It is impossible to present an acreage and volume picture of the forest resource in the Lake States and Central States at the end of 1944 without considerable study of survey reports and indicated trends. The value of such research at this time is not apparent. However, from general observation and survey of available facts, it seems reasonable to conclude that the forest resource at the end of 1944 will be at a lower level of productivity than it is today. This downward trend will not be accelerated by the war, but perhaps due to labor shortages will be retarded. At the end of 1944 the forest area of this region will be less able to support the war and sustain the peace which follows than it is today. Efforts to bring better practices into the woods should not be delayed. The war effort will be helped and not impeded by good forest practice and the ability of our forests to contribute to post-war reconstruction will be further enhanced.

Fire Situation.

The loss of the Civilian Conservation Corps and the movement of other manpower away from the forested areas greatly increase the fire

problem. In an effort to offset this, there has developed and is continuing to develop a decided intensification in forest fire control practices. Additional federal funds have been made available by special emergency appropriations for the present fiscal year for the protection from forest fire of areas considered critical or of strategic importance to the conduct of the war. In addition to this, the states are intensifying their forest fire control activities through the areas under organized protection and are also intensifying their state-wide forest fire prevention educational activities. There is every reason to expect their intensified forest fire prevention and control activities, because of the war emergency, will result in permanent increases in funds for state-wide forest fire control. This will entail more carefully prepared plans and more adequate administration of fire control work including, in the case of some states, extension of organized protection to areas not now being protected.

Post-War Situation.

The post-war period will find a big backlog of forest rehabilitation work. Activities which will call for intensified efforts include certain public land acquisition, reforestation, timber stand improvement work, hazard removal and more efficient and complete fire management of National Forests and cooperation with state and private interests. Post-war plans may call for new National Forests or extensions to existing ones and greatly expanded State Forests with state legislation and finances to manage the land. Land policies for each state are urgently needed.

The trend is towards the use of more wood for plastics, fuel and substitutes for non-renewable resources. (This is or will be a reversal of past trends.) This trend will require that all commercially valuable forest land be placed under management as rapidly as possible. The forest

lands should be made to produce to the maximum with the long-range objective of easing the burden on marginal farm lands and our non-renewable resources.

The major forestry needs stimulated by the war seem to call for - (1) continuation and expansion of effective fire control, (2) increases in public ownership of not only depleted lands but also of old growth and second growth timber stands, (3) increased planting programs to assure placing denuded lands in productive condition, and (4) a system of public regulation of cutting practices to protect our second growth forests of the present and future, and to prevent our few remaining virgin stands from being reduced to a state of non-productivity.

Measures which will help accomplish these needs include:

1. Better delinquent tax laws in some states.
2. Extension of classification of wildlands and more adequate zoning laws.
3. Authority to improve forest conditions and practices on lands regardless of ownership.
4. Cooperative woodland owners' management and marketing associations.

VIII. What is Ahead in Farm Technology?

Some changes in farming techniques by individual farmers will increase total production of crops in 1944. The selection of higher yielding varieties or strains of crops, the use of improved methods of handling crops, and the use of high protein roughage for growing livestock are some of the changes which will be employed.

Improved Cereal Crops.

The use of hybrid seed corn has been increasing the past several years, but the need for more corn in 1944 will influence all farmers in

the Corn Belt to use the highest yielding strains.

Vickland oats is another example of an improved variety that is gaining in acreage. It is very much higher yielding in the areas where it is adapted, has a stiffer straw and is better adapted to harvesting with a combine than any variety yet developed.

Other improved varieties of crops have been developed, with emphasis on higher yields, disease and insect resistance. The acreage will increase as fast as seed becomes available to more farmers.

Improved Forage Crops.

Two natural selections of brome grass have proved to be superior to all other strains tested in the Corn Belt. All available seed is being used for seed increase so that distribution can be made to farmers in Iowa, Illinois and Indiana. A strain of early timothy developed in Ohio is being increased for use in southern Ohio and Indiana. Rye grass from Europe, orchard grass, red fescue, crested wheat grass, and others are being increased and will take their places in the war production program.

The acreage of birdsfoot trefoil is being expanded. It is a perennial pasture type legume relatively new in the United States, adapted to acid soils low in available fertility, although it produces higher yields of higher quality forage with adequate calcium and the other essential plant foods. In preliminary performance tests, it has been established in pure seedings and in bluegrass for pasture improvement. It may be able to do in the short seasons of the north what Korean lespedeza does further south.

Native summer grasses such as big and little bluestem, Canada wild rye and others are being improved by selection. Cultural methods (such as rate, depth and time of seeding), and seed processing are bringing

these grasses into use in areas and on soils not adapted to cultivated spring grasses. The proper balance of cultivated grasses and native grass increases the length of grazing season materially, and thereby increases the production of beef and milk.

By 1944 more farmers will be familiar with the use of these improved strains of forage crops, more seed will be available, and more acres will be grown.

Soil Conservation Practices.

The widespread use of such simple production conservation practices as contour tillage, strip cropping, plow terraces, grassed waterways, stubble mulch tillage and others increases crop production immediately. Many acres of these practices were started in 1943, and the increase in 1944 is expected to be still greater. The increased emphasis of the AAA program on spread of conservation practices will contribute to this expansion.

In Illinois actual farm records kept of farmers under the guidance of the University of Illinois show a saving of 19 cents per acre in labor costs and 9 cents per acre in power and machinery costs in favor of contour farming as compared to the conventional method of up-and-down-hill farming. This saving was accompanied by an average increase of 7.7 bushels per acre in corn yields on the contoured fields.

Iowa, Wisconsin and Minnesota conducted yield tests under the supervision of research leaders on farms and also reported significant increase attributed to contour tillage operations.

Changes in Land Use.

Much of the land now under cultivation and subject to severe erosion should be converted to pasture and made to produce more meat and livestock products. The productivity of such land has been lowered by

overcropping and loss of top soil. Crop yields are too low for profitable cultivation, but by the use of lime, fertilizer, and improved strains of grasses and legumes, high yields of forage can be obtained.

Changes in the Use Intensity of Crop Land.

Level land subject to little or no erosion will be used intensively to grow corn, beans and other high feed value crops. Growing such crops continuously on such land for the duration with proper fertilization will not seriously deplete the productivity of the land. It is on such land that increased production can be attained by increased acreage of crops as well as by the use of higher yielding strains or varieties of crops. This change in intensity in use of crop land is noticeable this year, and by 1944 this change in program will be in full use.

Pasture Improvement.

More livestock and livestock products can be produced on improved, well-managed pastures. Observations by farmers, supported by research data, indicate the land not suited to continuous cultivation (Land Classes IV, V, VI and VII) will produce more total feed units when properly managed and improved. This additional forage can be secured on land subject to serious erosion under cultivation with only insignificant soil losses.

On the basis of increases to be expected by pasture improvement, it is estimated that the pasture land in the eight states in this region would provide summer grazing for 4,766,000 more animals.

Changes in Feeding Practices.

If these desirable land use conversions are to be generally adopted by farmers, there must also be a change in established feeding habits. More livestock must be put on the market from a roughage ration with very little or no grain at all. This will not produce the highly finished carcasses many farmers now pride themselves upon producing, but it will materially

lessen the manpower required to maintain a high volume of roughage consuming livestock, and will return more total food nutrients from our farm resources.

Such a change in feeding habits is likely to become necessary during 1944. It is extremely unlikely that there will be enough grain available to supply the requirements of customary rations for the greatly increased livestock numbers on hand. In addition, the demand for cereal grains for direct human consumption is likely to increase materially by 1944, with a corresponding reduction in the amount available for stock feed.

To assist in making the land use conversions necessary to meet expanding production goals, in adjusting livestock rations to most efficiently utilize larger quantities of roughage, in producing more feed units with less labor, every facility of the Department of Agriculture, State Colleges, and Experiment Stations, and local groups such as the soil conservation districts, must be focused effectively upon the individual farm plans of the farmers throughout the region.

Short-cuts and Labor Saving Practices.

Some farmers are able to take care of three or four times more livestock and crops per man than others. Arrangements of buildings and handy gadgets for feeding and care of livestock account for some of these differences. Labor saving machinery on the farm and in the field are important in increasing output per man, but short-cuts and full utilization of the labor saving machinery is necessary.

The number of terraces it has been possible to construct in any area has been generally limited by the lack of terracing machines and heavy tractors to pull them. Within the last two years a technique has been developed that permits terrace construction with a plow

(tractor or horse-drawn). The result will be a great many more terraces constructed wholly with ordinary equipment that is available on every farm.

If the utilization of greater quantities of roughages outlined above is to become a fact, it means additional fencing. Electric fencing meets this need with great economies in both material and labor. One of the worst weaknesses of electric fencing has been the tendency of weeds and grass to grow up through it and to short it. To remove this growth meant hand mowing between the posts. Under the newest techniques, the fence is mounted on posts set at a 45-degree angle in the ground. This permits a farmer to clip underneath the wire with a horse-drawn mower at great saving in time and labor.

In the large grain and soybean producing sections the combine harvester has saved a tremendous amount of labor. This saving was often at the expense of additional labor required to disk in the soybean straw spread by the combine before the new crop of wheat could be seeded. It has been found that by following the combine directly with a grain drill, the new seed can be drilled in the clean swath back of the cutter bar on the combine.

IX. What Will Be the Farm Tenure Situation?

In 1940 about 1,673,000 farmers were operating in the eight states of the North Central Region. Of these farmers, 32 per cent were full tenants, 12 per cent were part owners, and 56 per cent were full owners. Included in their farms were 215,150,600 acres of land. About 45 per cent was operated under lease by full tenants and part owners. The remainder was operated by the owner, either full-owner or part-owner operators. The average size of farm in the Region was 128 acres. Farms operated by full tenants averaged 146 acres; by part owners, 193 acres; and by full owners, 103 acres. About 242,700 farm operators in the Region reported working more than 100 days off their farms in 1939. Of these, 67 per cent were full owners, seven per cent were part owners, and 26 per cent were full tenants.

The above statistics on tenure for the Region are readily available. Two points need re-emphasis, however, since they are not too commonly considered in the development of our agricultural policies and programs.

First, many farmers in the Region have been part-time farmers. These farmers, usually on small units, attempt to supplement their income by work on other farms, in forests, or in nearby industry. These farmers should be recognized as part of the agricultural economy of the Region, and war production and post-war programs should give attention to their peculiar problems.

Second, part-owner operation (part of the land in an operating unit is owned and part is leased), has been an important method of farming in the Midwest. Twelve per cent of the farm operators are part owners. Farms of part owners are larger and have better land than the farms of either full owners or full tenants. Almost all the farms in

the Region are family-sized farms, but the capacities of farm families are different and even during the life of one family its capacity varies widely. The size of farm business should be flexible enough so that, as the farm family grows into peak productivity - the farmer becomes experienced and the children become old enough to help with farm work - the business can be expanded. Also, the size of business may have to be reduced as the family grows older. Part-owner operation offers flexibility in size of business and at the same time affords some of the security of ownership. Agricultural policies and programs must recognize the flexibility of the farm family and strive to make it easier for that family to increase or decrease the size of its business accordingly. The experience of part owners should be helpful in the development of those policies and programs.

What are the significant trends in tenure since 1940 and what may we expect by the end of 1944?

Changes in Ownership of Land.

From 1940 to June 1, 1943, the ownership of land has generally changed from unwilling owners to willing owners. Insurance companies, banks, estates, retired farmers, and farmers ready to retire are decreasing their holdings. For instance, between January 1, 1942 and April 1, 1943, there were 3,936 tracts of land transferred in 20 sample counties in the Region. Owner-operators and tenants bought 1,116 more of these tracts than were sold by other owner-operators. Non-farmers, including corporations and estates, sold 1,554 more tracts than were bought by other non-farmers. In addition, a number of the non-farmers purchasing land intended to operate the land purchased. (See following table.)

The new owners are predominantly persons with an interest in operating the land, or at least holding the land for a considerable period in the

Classification of buyers and sellers of all land
transferred in 20 Midwest Counties 1/
January 1, 1942 to April 1, 1943.

Class	Tracts Sold <u>Number</u>	Tracts Bought <u>Number</u>	Difference <u>Number</u>
Owner-operators and other farmers	813	1929	1116
Non-farmers (includes estates and corporations)	2686	1132	-1554
Unclassified <u>2/</u>	437	875	438
Total	3936	3936	-

1/ Clinton, Knox and Logan Counties, Illinois; Grant, Jennings, Knox, Noble and Rush Counties, Indiana; Cedar, Clarke and Crawford Counties, Iowa; Audrain, Harrison, Lawrence, Nodaway and Pemiscot Counties, Missouri; Darke, Medina, Madison and Muskingum Counties, Ohio.

2/ Represents buyers and sellers who were not known locally, a major proportion of whom are non-farmers.

Source: Land Market Survey of the Bureau of Agricultural Economics.

future - such as farmers, rural non-farmers, urban investors with previous ownership experience, and part-time farmers. In the last half of 1943 and 1944, a major portion of the unwilling owners will have sold their land. More people will buy land as a hedge against inflation; and a considerable increase in the land purchases for resale profit will take place. By 1944 some land will be owned by individuals whose peacetime business was a "war casualty" - such as garage and filling station operators. At the close of the war many of these owners will want to get their money out of land for use in their former business.

In 1944, owner-operators will own more land than was in the hands of owner-operators in 1940, but the increase in 1943 and 1944 will not be as great as between 1940 and 1942. In 1944, a considerable number of industrial workers will purchase what they consider post-war security in the form of a little piece of land. Some of these tracts will be close enough to industrial jobs to permit part-time operation during the war (shortage of food supply will also encourage this type of purchase).

Changes in Operators.

Net changes in the composition of land operators will not be large between now and 1944. Since 1940, there has been a decrease in the amount of land operated under lease. There has been a rapid increase in the number of individual farm changes - more farmers are retiring, more are changing to a different farm, and more are starting to farm. If we look at any one side of these changes, we are apt to become unduly frightened as we did in the fall of 1942 when we looked at the large number of farm auctions. In the spring of 1943 we find that other farmers have taken over the land, livestock and machinery. There probably is less land not in use in 1943 than there was in 1942. In Clarke County, Iowa, only one tract of land had not been leased by April 1, 1943.

New Farmers: One reason why all the land is in use in 1943, even though there were many farmers retiring in 1942, is that many individuals are operating farms in 1943 who did not operate farms in 1942. The Farm Security Administration in Region 3 (five Corn Belt States of Ohio, Indiana, Illinois, Iowa and Missouri), made more than 2,677 loans to new farm operators between October 1942 and May 1943. A more detailed analysis was made of 86 of these new operators in 10 counties. Of these, 61 had been farm laborers in 1942 and 25 had been working in urban areas. All of them had a number of years of farm experience. Of the 61 who were farm laborers in 1942, 10 had operated farms in the past. Of the 25 who had been working in urban areas, 11 had operated farms in the past. Seven of the new operators became owner-operators, 10 rented from relatives, and the rest rented in the usual manner. Sixteen of the new operators were between 19 and 25 years of age, 45 between 26 and 38, and 25 were 39 years old or over. The farms which the new operators moved on to averaged 130 acres with 84 acres of crop land. In all but one of the counties the average size of the new borrower's farm was smaller than the average size in the county, but the crop acres were about equal to the average of the county. There were, of course, many reasons why these new operators picked 1943 to start farming. Expectation of high farm income was good. National policy encouraged anyone with experience in agriculture to do his utmost to produce food. Some farm operators leased part of their land to a good farm laborer and helped that laborer get started by making feed and machinery available. In return, the new operator would share labor with the landlord. In general, the new operators had been better than average farm laborers and had possibilities of being among the better than average farm operators.

The new farmers in 1943 who have been assisted by the Farm Security Administration are, by no means, all of the new farmers. Many do not need financial assistance, or can secure such assistance from other lending agencies. County officials and lending agency representatives indicated that they had received large numbers of inquiries concerning the possibilities of starting to farm. Many of these inquiries were from people in poorer agricultural areas and from urban areas. There will be no shortage of farm operators by the end of 1944.

Increased Mobility of Farm Operators: Another reason why all the land is in use in 1943 is that there are considerable numbers of operators moving from one farm to another, in an effort to get the size and type of farm which will fully employ their family. To get a picture of this mobility, all tenure changes between 1942 and 1943 were obtained in Clarke County, Iowa. In this county there were changes in tenure on 376 tracts of land. Of the tenure changes on 376 tracts of land in Clarke County between 1942 and 1943, 69 involved a change in both owner and operator; 46, a change in ownership only; and 261, a change in operator only.

Tenants replaced tenants on 182 tracts. Nineteen of these replacements were accompanied by a change in ownership. Owner-operators replaced tenants on 104 tracts. Eighteen owner-operators in 1943 bought the land they had been renting in 1942. Thirty-six bought land leased to another tenant in 1942. Fifty began operating land previously owned by them but leased by a tenant in 1942. This latter group includes landlords who either had difficulty finding a tenant in 1943 or who wanted to take over the operation of the farm. Some of these tracts will be operated with hired labor in 1943. Tenants replaced owner-operators on 52 tracts. Of these, 47 of the 1942 owner-operators continued as owners in 1943 and leased the land to a tenant. Five tracts were sold by the 1942 owner-operator and the

new owner leased the land to a tenant in 1943. These five tracts were full units averaging nearly twice the size of the average farm unit in the county. Owner-operators replaced owner-operators on nine tracts. These tracts were smaller than the average for the county and their purchase represents mainly additions to existing farm units. Owner-operators in 1942 discontinued operation on a total of 61 tracts. In the main this represents a group of operators who are reducing the size of their operations or retiring. Some of those retiring were passing the operation of the farm on to a relative.

Changes in Types of Leases.

There does not appear to be much change in the types of leases and leasing arrangements since 1940. The cash rents have gone up some, and in some cases the landlord's share has been increased. Both landlords and tenants received a much greater return in 1942 than in 1940. Leases in the Corn Belt are predominantly for one year, but in some areas and in some groups of farmers, attempts have been made to increase the length of the lease from three to five years. The F.S.A. County Supervisors have been especially active in this respect. In 1943 the F.S.A. Supervisors are finding that neither the tenant nor the operator wants a lease for more than one year. Many longer term leases are being changed to one-year leases. The main reason why tenants did not want longer leases was that they did not want to commit themselves for a long period in view of the future uncertainty. A few labor-share leases are appearing in part of the Corn Belt. In these leases the landlord furnishes the land, livestock and machinery, and gets two-thirds of the income. The tenant furnishes the labor, and sometimes the power, and gets one-third of the income. This type of lease may become more common by 1944, even though it affords somewhat less security to the

operator than he would have under the more common leasing arrangements. By its use, good hired labor can be given an interest in farming and kept on the farm. Also, new operators will be tempted to use this type of lease as livestock and machinery become more difficult to obtain.

Tenure of Farm Labor.

The tenure of farm laborers will be much improved between 1940 and 1944. Wages will have increased. More laborers can be used than are available. Farm laborers will be sure of a job for the duration of the war. As previously pointed out, many will become farm operators. Farmers will attempt to hold their hired labor by organizing their farms so as to provide year-around employment.

A much smaller proportion of hired labor will be single men in 1944 than in 1940. More married men are available for farm labor in 1943 than there are housing facilities. Farmers will try to make the maximum use of housing facilities to house the families of married hired labor. An increase in the number of houses on a unit should be accompanied by an increase in the size of business which will insure a fulltime job for the extra families.

After the war, farm labor should have somewhat more security of tenure than it has enjoyed in the past. The farmer should do his part by making a fulltime job for the farm laborer. Farm laborers should have the privileges of a social security program.

Summary of Significant Tenure Changes Between 1940 and 1944.

1. Almost complete disappearance of unwilling land owners.
2. An increase in owners anticipating speculative profits from resale (particularly in 1943 and 1944 if income taxes and other forms of land market controls are not increased sufficiently to prevent inflation of land values).
3. A small increase in the amount of land owned by operators.

4. An increase in the number of small tracts owned by industrial workers who plan to ride out any post-war depression as subsistence or part-time farmers.
5. Increased number of individual operators changing farms,
6. Slight increase in the average size of farms but considerable change in the individuals included in the different size groups.
7. Lease contracts drawn for shorter time periods.
8. Increase in labor share leases.
9. Increased proportion of hired farm labor performed by married men and their families.

Meaning of Farm Tenure in the Development of Post-War Policies and Programs.

Farm tenure is the term we apply to all the various methods by which individuals or groups of individuals hold rights to use and receive income from farms. As such, it has no significance in itself. It attaches importance only when the methods used to hold the rights to land use and land income interfere or facilitate the real ends of agriculture, such as producing the kinds and amounts of agricultural products needed, increasing the standard of living and the security of the farm family, and conserving the natural resources. We know, of course, that many of our farm tenure arrangements will interfere now and in the future with the development of a desirable agricultural economy. Sound policies and programs on the following subjects should minimize some of the farm tenure obstacles.

1. Inflation control, especially in land values.
2. Debt adjustment and mortgage insurance to minimize foreclosures in the event we have lower price and income levels after the war.

3. Programs to aid farm laborers to become farm operators and farm operators to become farm owners.
4. Programs which aid farm operators to adjust the size of their business to the size of their family.
5. The place of subsistence or part-time farmers following the war.
6. Job security for farm laborers.
7. Retirement programs for farm operators.

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X. The Rural Health Situation.

By the end of 1944 we can expect the number of doctors and dentists available to families located in rural areas to be only slightly less than in 1943. Early in 1943 the Procurement and Assignment Committees of the medical professions found that a number of doctors enlisting from rural areas on a percentage basis had met or exceeded their quotas and, therefore, by agreement arranged not to accept any additional doctors or dentists from rural areas for enlistment unless they could be replaced by older doctors or by doctors for physical reasons not acceptable for service in the armed forces. In general, medical doctors serving rural families are now called upon to serve 700 families or more per physician. This is twice as many families as will be able to receive full medical attention. This statement is made on the basis of effective service from physicians.

For example, in one typical county there were listed a total of 35 resident physicians; 7 of these were not in practice due to old age or other disability, 7 had entered the armed forces, one was a full-time health doctor rendering no families practice. This left 20 practicing physicians.

Two of this 20 were classified as full-time surgeons or specialists and therefore not available to families for regular home and office service. Eleven of these doctors were over 65 years of age and capable of rendering total service equivalent to four full-time practicing physicians. This left the equivalent number of effective private practitioners of 11 medical doctors. Taking the total population into consideration, each of these physicians would be called upon to serve 2,700 persons. Inasmuch as townspeople in this area are closer to the physicians, they would, by virtue of location, receive more service. The equivalent of one physician would be available for each 3,600 rural persons. This is considered fairly representative of a good agricultural area not influenced by an influx of industrial workers.

There were less than one-half as many dentists available for services to the rural people.

Approximately twice as many doctors and dentists are required for complete health service in rural areas as are available, as of June 1, 1943. Under these conditions, early treatment of health situations is difficult for rural families to obtain. Many observations have been made indicating that families have come to physicians' offices, finding the offices too crowded, and were unable to await their turn to receive service. Due to the shortage of transportation facilities, rural families are now requesting more home calls than heretofore. Doctors find these home calls difficult to service, because of lack of time, even though they have transportation available. By the end of 1944 we can expect the health situation in strictly rural areas to become progressively more acute. Assignment of additional doctors or dentists in rural areas has been next to impossible.

The situation may be relieved during the war period through the establishment of certain health centers where doctors may meet families for office calls and devote time to these centers in rotation.

This problem will need careful planning to locate doctors in needed areas in the post-war period and attention be given to methods of payment for service in order that physicians so located may receive incomes high enough to justify their remaining to serve these families.

The first effect of the reduced number of doctors in rural areas is beginning to show in an increased infant death rate. This may be overcome to a certain extent by the increased use of trained nurses, particularly married nurses wherever they can be located and made available in these rural areas, to work in cooperation with the remaining physicians as a means of conserving physicians' time and extending their services.



